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Theoretical review of routing protocols used for wireless community networks (Review)

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Abstract

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Wireless community networks (WCNs) are a solution for people who are living in some areas facing difficulties for accessing the internet because no ISPs are providing them with the service due to the long distance, the high cost of infrastructure, and the less no of people in these areas. So people decided to build their own internet without the need for ISPs. They build mesh networks to provide WiFi access to the internet. WCNs are considered as large-scale, distributed and decentralized systems. In addition, it consists of numerous nodes, links, content, and services. These networks are constructed in a decentralized way, mixing wired and wireless links with different routing techniques with a different range of applications and services. Therefore, they are very dynamic and diverse. There is an open peering agreement that governs these networks, where it avoids impediments for the participation in the network. The ownership, governance, and knowledge of the network are open. For that reason, WCNs are decentralized as well as they are self-managed and self-owned by community members. Moreover, they are self-growing networks in links, capacity, and services provided. This paper presents a critical analysis of the current routing protocols that are employed for WCNs. In addition, it highlights the strengths and weaknesses of each routing protocol. Copyright © 2019 American Scientific Publishers All rights reserved.

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